



Promoting Cooperative Solutions for Space Sustainability

International Code of Conduct for Outer Space Activities vis a vis Other Space Security Initiatives

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Space for Human and Environmental Security in the Americas:
Space policy, Long-term Sustainability and Cyber-health

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Promoting Cooperative Solutions for Space Sustainability

**The Secure World Foundation (SWF)
is a private operating foundation
dedicated to the secure
and sustainable
use of space
for the benefit of Earth
and all its peoples**



Promoting Cooperative Solutions for Space Sustainability

What Does the Foundation do?

Engages with academics, policy makers, scientists and advocates in the space and international affairs communities to support steps that strengthen global space security.

Promotes the development of cooperative and effective uses of space for the protection of the Earth's environment and human security.

Acts as a research body, convener and facilitator to advocate for key space security and other space related topics and to examine their influence on governance and international development.



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Key Governance Focus Areas

Space Sustainability

- Protection of continued utility of space resources

Human security

- Development and disaster assistance
- Environmental and climate change
- Countering degradation of land, air, water, and ice

Planetary threats

- Mitigating the threat of collision from a Near-Earth Object (NEO) through the establishment of effective governance for response



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Basic Facts

- Non-profit operating foundation founded in 2004
- Funding comes from a private endowment
- Offices in Colorado, Washington DC and Brussels
- Dedicated to ensuring the long-term sustainability of the space
- Strong role in policy development in both the international and domestic policy communities



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Where are we now?



**Is long term use of outer space
sustainable?**

Where are we now?

- **More actors involved:**
 - Government and private space operators
 - 9 states with launch capabilities
 - More than 50 states and international organizations with assets in space
 - Increase in private companies, universities, institutions owning small/cube/nano satellites
- **More objects in space**

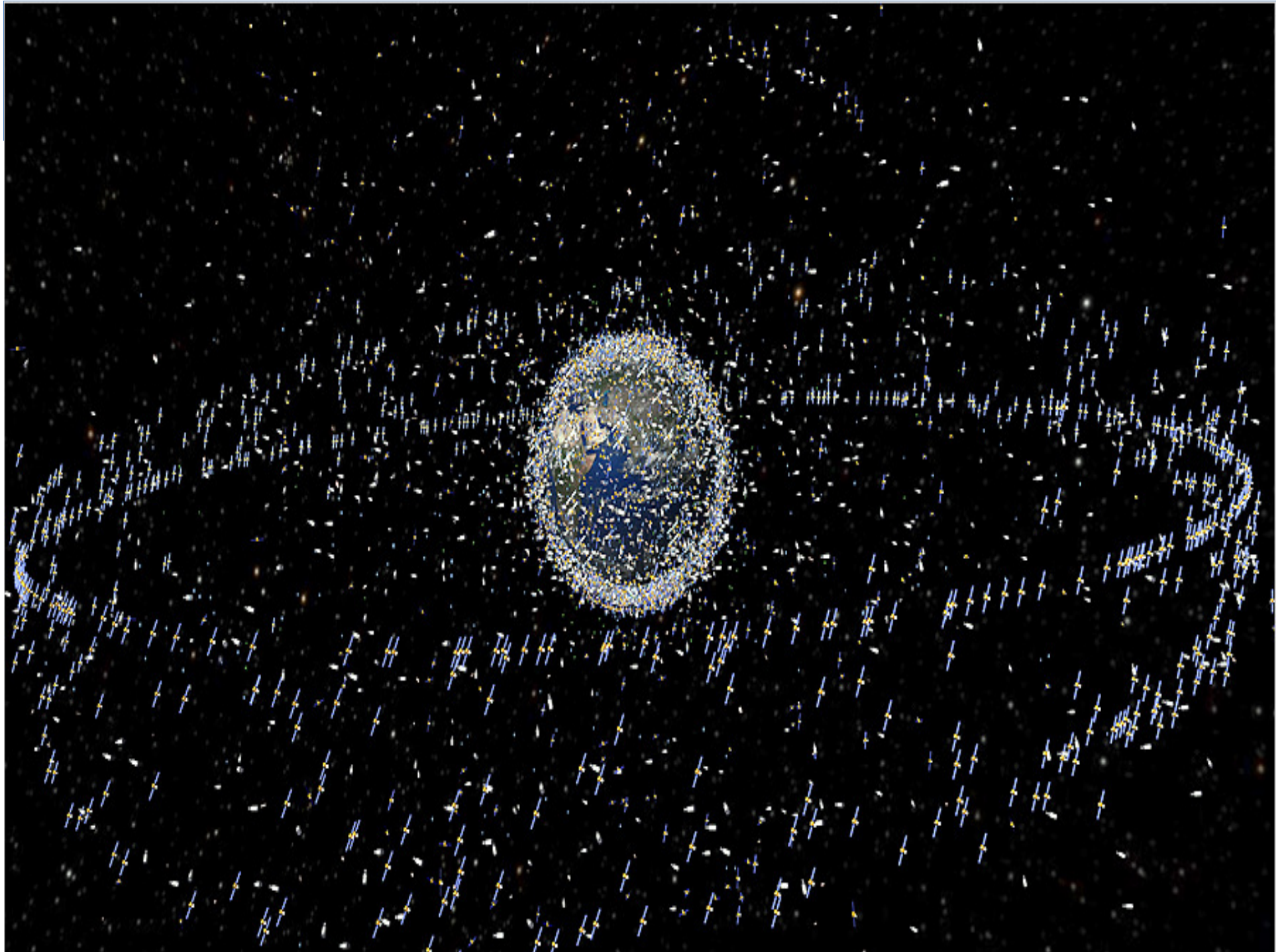




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Where are we now?

- **994 operational satellites in orbit**
- **21 000 objects larger than 10cm**
 - 40% satellites, which are no longer operational
 - 55% fragments of other objects
- **450 000 objects between 1-10cm**
- **Estimated several million below 1cm**





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The situation

- Space environment is very fragile
- There have been no deployment of weapons into the outer space so far
- Ground-based weapons can target space objects in the LEO
- Rules/norms of behavior necessary to assure safe and secure access to the outer space for the benefits of all human kind
- Space Debris Mitigation Guidelines (IADC, UN)



**THE
WAY
FORWARD**



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Various Initiatives



PPWT (Russia and China)

Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force Against Outer Space Objects

LTSS (UN COPUOS)

Long term Sustainability of Outer Space



ICoC (EU)

International Code of Conduct



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PPWT - highlights

- On **12 February 2008**, the Foreign Minister of Russia introduced a draft treaty, submitted by Russia and China, to the Conference on Disarmament (CD), the UN's primary body for negotiating disarmament treaties. The draft treaty is called the “Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force Against Outer Space Objects” —also known as PPWT.
- Outer space free from “military confrontation” and open to peaceful uses and exploration for the “development of humankind”.
- Existing arms control and disarmament agreements relevant to outer space “play a positive role ... in regulating outer space activities,” but are insufficient to “effectively prevent the placement of weapons and an arms race in outer space.
- Defines “weapons in outer space” as any device placed in outer space, based on any physical principle, specially produced or converted to eliminate, damage or disrupt normal function of objects in outer space, on the Earth or in its air, as well as to eliminate population, components of biosphere critical to human existence or inflict damage to them.



- Militarization of space is not addressed – using space assets for war on Earth.
- Dual-use technologies are not addressed.
- Ground based weapons are not banned including ballistic ground-based missile defense systems.
- The use of space weapons is banned but not the tests.



- Introduced in **2008 by France**
- 2010 - STSC of COPUOS recalled the importance of ensuring the safe and sustainable future use of outer space and noted that a working group should be established to support the preparation of a report on the long-term sustainability of outer space activities, the examination of measures that could enhance the long-term sustainability of such activities and the preparation of a set of voluntary guidelines focused on practical measures that could be implemented in a timely manner to enhance the long-term sustainability of space activities.
- **4 Expert Groups:**
 - Sustainable space utilization supporting sustainable development on Earth
 - Space debris, space operations and tools to support collaborative space situational awareness
 - Space weather
 - Regulatory regimes; guidance for actors in the space arena



- In **2008**, the EU published a draft Code of Conduct for Outer Space Activities. It was revised in September 2010.
- The code calls on member states to establish "policies and procedures to minimize the possibility of accidents ... or any form of harmful interference with other States' right to the peaceful exploration and use of outer space."
- It is based on three principles:
 - Freedom of access to space for peaceful purposes
 - Preservation of the security and integrity of space objects in orbit
 - Due consideration for the legitimate defense interests of states
- The code is not legally binding, but is rather a voluntary agreement among states with no formal enforcement mechanisms.



- In February 2011, thirty-seven US Republicans noted that they were "deeply concerned" about the code because inadequate Obama administration briefings led to the mistaken belief that it could constrain missile defenses or antisatellite weapons.
- Several countries expressed that they might not signed the code because they were not sufficiently consulted.
- On February 17th, 2012 Hilary Clinton formally endorsed the code on behalf of the US.
- In addition to US, Canada Australia, Japan, India have endorsed the Code.



- Though not legally binding, an international code would be the most significant normative step that captures the interests of almost all spacefaring countries while shaping and promoting sustainable outer space conduct.
- Negotiations will require time and patience, as many states have understaffed space agencies. However, given that the threat from space debris is increasing exponentially and could lead to a domain that is no longer reliable or safe for human use, such discussions cannot start soon enough.



- **Why follow a Code?**

- Because it is in the state's best interest; if not, it will not follow
- By agreeing to certain rules, states label themselves as responsible and irresponsible actions

- **Pros**

- Can establish effective behavior that will allow space users to continue to receive benefits from space
- Could lay groundwork for later legal agreements along the same lines

- **Cons**

- No legal obligation to follow through on norms of behavior
- May handle the easiest issues to resolve internationally, which may not be what is needed to ensure space usable in the long run
- Does not cover all contingencies/fill in the blanks currently existing space regulatory regimes





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Conclusions

- Overall, there is a need to bring the international community together on how space security issues are dealt with in the future.
- Currently, there are a selection of initiatives being presented in the international community that attempt to deal with space security questions – some from the civil perspective, some from the disarmament perspective.
- Given that space is so globalized, it is imperative that ALL space actors are engaged and invested in space security initiatives





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**Without security there is no
safety
and without safety there is no
security**





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Thank you for your Attention!

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